

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of	)	
	)	
Benoit FECAMP et al.	)	Confirmation No.: 5922
	)	
Application No.: 10/576,786	)	Group Art Unit: 3749
	)	
Filed: April 21, 2006	)	Examiner: Sarah Elizabeth Suereth
	)	
For: CONTROL SYSTEM OF AN	)	
INTERNAL COMBUSTION	)	
ENGINE	)	

**PRE-APPEAL BRIEF CONFERENCE REQUEST**

**Mail Stop AF**

Commissioner for Patents  
Alexandria, VA 22313-1450

Applicants request review of the final rejection in the above-identified application.

No amendments are being filed with this request. This request is being filed with a Notice of Appeal.

In the outstanding Office Action (mailed on June 8, 2011), all the pending claims are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,658,856 to Critchley (hereinafter "Critchley") in view of U.S. Patent No. 6,325,046 to Kanno ("Kanno") and U.S. Patent No. 5,428,956 to Maus et al. ("Maus").

**1. The applied references fail to render obvious an “electronic data processing unit [that] receives the signals from the signal acquisition device, processes the signals and, based on the processed signals and the data base, regulates an opening of the first valve and second valve to minimize polluting emissions of CO and NOx of the combustion unit” (emphasis added).**

In item 6 of the outstanding Office Action, the Examiner acknowledges that Critchley fails to teach a fuel valve, adjusting a fuel valve or a database. In item 7 of the outstanding Office Action, the Examiner appears to acknowledge that Critchley does not teach regulates an air valve and a fuel valve based on processed signals and a database.

In item 8 of the outstanding Office Action, the Examiner invokes the teachings of Kanno, where a controller (86) receives input from an O2 sensor (87), an engine sensor (40) and a throttle angle sensor (80) and controls spark plug (50) and fuel injector 62) to achieve a targeted air/fuel ratio. See Figures 5, 6 and col. 6, lines 9-23 of Kanno.

In item 9 of the outstanding Office Action, the Examiner concludes that “It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Critchley controller to include using a database to adjust the air/fuel ratio in order to accurately control the air fuel ratio of the apparatus to the desired levels (col. 6, lines 9-23).

The applied references, Critchley and Kanno alone and their combination do not render obvious regulating (i.e. controlling) both (1) an air valve and thus a bypass portion of the airflow not passing through the catalyst, and (2) a fuel valve to minimize

polluting emissions of CO and NO<sub>x</sub> of the combustion unit. Critchley discloses an air flow being split by an air staging valve (54) into a bypass portion (56) and a portion flowing through the catalyst (58), but is silent both relative to a fuel valve and the use of the database. Kanno teaches a fuel valve and using a database for a comparison with operating conditions, but is silent relative to regulating thus a bypass portion of the airflow, Kanno's adjustment being directed to only one valve (fuel valve). The combination of Critchley and Kanno may achieve an accurate control the air/fuel ratio to the desired levels (see the reason to combine set forth in the Office Action), but there is no reasonable expectation of success regarding minimizing polluting emissions of CO and NO<sub>x</sub> of the combustion unit as claimed.

To summarize, controlling an air valve in Critchley and controlling a fuel valve in Kanno are one-valve type of control, and do not render obvious the claimed "based on the processed signals and the data base, [regulating] an opening of the first valve and second valve to minimize polluting emissions of CO and NO<sub>x</sub> of the combustion unit." In other words, according to these claims features, a two-dimensional (i.e., related to the first valve and to the second valve) control is performed. A person of skill in the art would understand that, when a two dimensional control is performed the use of a roadmap such as data stored in a database is important in performing an efficient and fast adjustment of the controlled variables.

**2. The Office Action does not meet the requirement to provide a valid reason for combining Critchley's and Kanno's teachings.**

The U.S. Supreme Court has reiterated this requirement in *KSR v. Teleflex*, 550 U.S. 398 (2007). The alleged reason, "to accurately control the air fuel ratio of the apparatus to the desired levels" is not germane to the purpose of the modified reference, Critchley, or to the claimed goals, "to minimize polluting emissions of CO and NOx of the combustion unit."

Applicants believe that Maus does not correct or compensate for the above-identified failure of Critchley and Kanno to render obvious all the features of the independent claims. Maus' teachings appear to be cited relative to features recited in the dependent claims only.

## CONCLUSION

The proposed combination of references relied upon in rejecting the claims under 35 U.S.C. §103 does not render obvious all the elements of the independent claims. Further, a valid line of reasoning from the prior art providing a suggestion or motivation to combine the references has not been presented. Accordingly, the Applicants respectfully submit that the Examiner's rejections are clearly without basis and should be withdrawn. Further, the Applicants respectfully request that the Office issue a finding that the application is allowed on the existing claims and that prosecution remains closed.

Respectfully submitted,

POTOMAC PATENT GROUP PLLC

By: /Luminita A. TODOR/

Luminita A. Todor, Ph.D.  
Registration No. 57,639

Date: October 19, 2011  
Customer No. 86661  
Potomac Patent Group PLLC  
P.O. Box 270  
Fredericksburg, VA 22404  
(540) 479-4111